

Notice of Allowability

Application No. **09/801,310**

Applicant(s) **FRENKEL ET AL.**

Examiner **Jean B. Corielus**

Art Unit **2637**

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/14/05.
2. ☒ The allowed claim(s) is/are 1-15, 17-34, 36, 37 and 39, renumbered as 1-14, 17, 15, 16, 18-32, 34, 33, 35 and 36, respectively.
3. ☒ The drawings filed on 07 March 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Jean B. Corielus
Jean B. Corielus
Primary Examiner
Art Unit: 2637

10-31-05

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with S. Peter Ludwig on 10/27/05.

The application has been amended as follows:

IN THE CLAIMS:

Claim 3, line 4, "address" has been changed to --addresses--.

Claim 14, line 2, --digital processing-- has been inserted after second.

Claim 15, line 12, --digital processing-- has been inserted after second; line 14, --at least-- has been inserted before "first"; line 14, --digital processing-- has been inserted after second.

Claim 21, line 4, "address" has been changed to --addresses--.

Claim 37 has been amended as follow:

--37. (Amended) An interpolation device for processing a sequence of input samples provided at a given input period, and having an output period that is substantially independent of the input period, the device comprising:

a finite impulse response (FIR) filter, adapted to process the input samples so as to generate a sequence of intermediate results in the filter at successive times corresponding to the output period, and to update the intermediate results for each of the input samples, and to output as an output sample, once in each output period, the intermediate result that was generated at an earliest one of the successive times among the intermediate results in the filter;

a timing controller, which is coupled to determine a fractional interval indicative of a phase offset between the input period and the output period, wherein the filter generates and updates the intermediate results responsive to the fractional interval determined by the timing controller.—

Claim 38 has been canceled.

Claim 39 has been amended as follow:

--39. (Amended) A method for filtering a sequence of input samples provided at a given input period, comprising:

processing the input samples in a finite impulse response (FIR) filter so as to generate a sequence of intermediate results in the filter at successive times corresponding to an output period of the filter, which is substantially independent of the input period;

updating the intermediate results for each of the input samples;

and outputting as an output sample, once in each output period, the intermediate result that was generated at an earliest one of the successive times among the intermediate results in the filter;

determining a fractional interval indicative of a phase offset between the input period and the output period, wherein processing and updating the intermediate results comprises computing the intermediate results responsive to the fractional interval.--

Claim 40 has been canceled.

Reasons for allowance


2. The following is an examiner's statement of reasons for allowance: an interpolation method and apparatus and a multichannel apparatus and method are disclosed. The closest prior art, De La Bourdonnaye, US Patent No. 5,212,687 and Snell US patent No. 5,764,113, disclose similar method and apparatus. However, De La Bourdonnaye and Snell do not teach or fairly suggest the limitations recited in claim 1, lines 7-16 and similar limitations recited in claim 19, the limitations of "a timing controller, which is coupled to determine a fractional interval indicative of a phase offset **between the input period and the output period**, wherein the filter generates and updates the intermediate results responsive to the fractional interval determined by the timing controller" recited in claim 37 and similar limitations recited in claim 39, are neither anticipated nor rendered obvious by De La Bourdonnaye and Snell.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Corrielus whose telephone number is 571-272-3020. The examiner can normally be reached on Maxi-Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jean B Corrielus
Primary Examiner
Art Unit 2637

10-31-05